DOCUMENT RESUME

ED 261 264 CE 042 527

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TITLE Instructor-Assisted Individualized Instruction versus Computer-Assisted Individualized Instruction for Teaching Keyboarding on Microcomputer Keyboards. Final Report.
SPONS AGENCY Missouri State Dept. of Education, Jefferson City. Research Coordinating Unit.
PUB DATE 30 Jun 85
NOTE 55p.
PUB TYPE Reports - Research/Technical (143) -- Computer Programs (101)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Community Colleges; Comparative Analysis; *Computer Assisted Instruction; Educational Research; *Individualized Instruction; *Microcomputers; Office Occupations Education; Postsecondary Education; Teacher Student Relationship; *Teaching Methods; Two Year Colleges; *Typewriting; Vocational Education
IDENTIFIERS *Keyboarding

ABSTRACT

Eight students enrolled in keyboarding at State Fair Community College in Sedalia, Missouri in Spring 1985 participated in a comparison of computer-assisted keyboarding instruction and instructor-assisted keyboarding instruction. Half were given instructor checkpoints at specified intervals; half did not have this regular, planned interaction with the instructor. Objectives were to identify the better instructional method and to produce instructor-assisted individualized instruction keyboarding materials for use with microcomputer keyboards. Conclusions were that students liked contact with the instructor, computers provided adequate instruction for keyboarding, and students preferred microcomputer keyboards. Attachments, which comprise the major portion of the report, include a summary of student evaluation of instruction, a syllabus for a two-semester-credit individualized course for keyboarding (objectives, required materials, grading procedures, TRS-80 Network 3 instructions, keyboarding lesson plans), study guides and tests (written midcourse and final examination and final production test), lesson record sheet, and 10-key numeric keyboard computing program. (YLB)

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FINAL REPORT

INSTRUCTOR-ASSISTED INDIVIDUALIZED INSTRUCTION VERSUS COMPUTER-ASSISTED INDIVIDUALIZED INSTRUCTION FOR TEACHING KEYBOARDING ON MICROCOMPUTER KEYBOARDS

Project No. 85-131/132-600-10 (126-12J) (A)

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June 30,1985

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I. ABSTRACT

Keyboarding skills are becoming necessary for more people. This project is a comparison of computer-assisted keyboarding instruction and instructor-assisted keyboarding instruction.

Eleven students who enrolled in keyboarding at State Fair Community College in the Spring of 1985 agreed to participate in this project. Half of them were given instructor checkpoints at specified intervals and half of them did not have this regular, planned interaction with the instructor. Criteria used to determine which group the students would be in were ACT scores and student preference.

The first objective was to identify the better method for teaching keyboarding and the second was to produce instructor-assisted individualized instruction keyboarding materials for use with microcomputer keyboards.

Of the 11 students who began keyboarding this spring, one dropped before the third week because of work conflicts, one dropped school in the ninth week, one dropped in the eleventh week because of illness. These students did not complete an evaluation form. The other eight students completed the course and the evaluation form. It was anticipated that more students would be enrolled in keyboarding but several of those who had the option of two-hour Keyboarding or three-hour Typing I, chose Typing I.

Checkpoints were completed quickly because the students were well prepared as a result of the computer instruction thus giving

the instructor an opportunity to praise the student. I believe it was this positive aspect of the checkpoints that made the other students want to enter in even when they were not required to participate.

This project has shown a need for interaction between instructor and student. It also points out that computer-assisted instruction is a valuable tool for instruction but should be used in conjunction with personal contact with the instructor.

II. STATEMENT OF THE PROBLEM

Because of the automation of many jobs requiring interaction with the computer, it is now necessary for more than just office employees to have the skill of keyboarding. Many questions arise with the advent of this new need of presenting keyboarding skills to a diverse audience. Some of the questions which need to be answered are: Should keyboarding be taught on typewriters or on computer keyboards? What should the content of the course be? What is the most efficient and effective delivery system? It is the last question to which this project is addressed.

Many schools have purchased instructor-assisted individualized typing materials over the past years. As these schools and others begin offering keyboarding skills on computer terminals, they also will be searching for the most effective means of delivery. The findings of this project could help them determine whether they should continue using instructor-assisted individualized materials for keyboarding or if they should purchase

computer-assisted instruction materials, or if a combination of computer-assisted and instructor-assisted would be most advantageous.

III. OBJECTIVES

I. Identify the better method for teaching keyboarding based on the following:

a. students response to instruction

It was concluded that the best method is a combination of computer-assisted and instructor-assisted instruction.

All of the students were instructed by the computer program. In addition, five of the students were required to take checkpoints periodically. The students completed the checkpoints quickly because they were well prepared as a result of the computer instruction thus giving the instructor an opportunity to praise the student. It was noted by the instructors involved that even those students who were not scheduled for checkpoints did many times participate in the checkpoints as they were being given to another student sitting closeby. They seemed to want this positive interaction with the instructor. The following results were obtained on the evaluation form:

1. One hundred percent of the students "agreed" or "strongly agreed" that the computer program satisfactorily provided motivation and encouragement.
2. Seventy-five percent of the students "agreed" or "strongly agreed" that personal encouragement from the instructor is more motivating than that provided by the computer.

3. Seventy-five percent of the students "agreed" or "strongly agreed" that the checkpoints are helpful.

Another observation which indicates the need for instructor/student interaction in addition to computer instruction is the way the students would come to the desk to visit with the instructor to show their timings or other work when no checkpoint was scheduled that period. Even though they are college age students (ranging in age from 18 to 30) they seemed to want to show the instructor their work and what they were able to do.

b. speed and accuracy test scores

Speed and accuracy requirements for this course are as follows:

Gross Words A Minute on three-minute Timing

C	26-29	C	97 percent accuracy
B	30-34	B	98 percent accuracy
A	35 and up	A	99 percent accuracy

The five best timings are used to compute this part of the grade.

Of the five students who took checkpoints four (80 percent) achieved an A for speed while one (20 percent) received a B. Of these same students two (40 percent) received an A for accuracy, two (40 percent) a B, and one (20 percent) a D. This group included students who had previous typing experience ranging from none to two years. Composite ACT scores range from 8 to 14.

Of the three students who did not take checkpoints two (67 percent) received an A for speed; one (33 percent) a B. All

three (100 percent) achieved an A for accuracy. These students had previous typing experience ranging from none to one year. ACT scores range from 13 to 19.

Because of the variables such as previous experience in typing, ACT scores and personal motivation, it is impossible to draw a definite conclusion but it would appear that checkpoints or lack of checkpoints do not make a significant difference in speed and accuracy scores.

c. cost of instruction

The cost of instruction is not a determining factor in this study because there were not more students than could be provided for in the regularly scheduled classes where the instructor was available anyway. If there were more students than could be scheduled in these classes, it would have been a cost advantage to have the computer-assisted instruction because those additional students could come in at anytime to use the computers.

d. flexibility for scheduling

At State Fair Community College we offer four daytime classes and one evening class in which students are enrolled for all typing and keyboarding courses. Each class accommodates a variety of enrollments ranging from keyboarding to typing I, typing II, typing III, legal typing and medical typing. Computer-assisted instruction allows the student to work at any time the lab is open, which in our case is from 7:30 a.m. to 9:30 p.m. The only time they need to schedule with the instructor is for testing.

For those students who were required to take checkpoints, the scheduling is still flexible allowing the student to work at

any time. The only limiting factor here is that they need to schedule a time to be with the instructor periodically for checkpoints in addition to testing. Of course, another advantage with this flexibility is that the student can work at his/her own speed. Several of the students who began at the beginning of the semester completed before the last week of classes. Enrollment at any time is allowed and creates no problems.

II. Produce instructor-assisted individualized instruction keyboarding materials for use with microcomputer keyboards.

The materials prepared are to be used with Basic Keyboarding and Typewriting Applications or Basic Information Keyboarding Skills. Microcomputer Keyboarding diskettes for use with TRS-80 Network 3 microcomputers are to be used with either text. Both are published by South-Western.

Included in these materials are syllabus, lesson record sheet, pretest, midcourse test and final test. The syllabus includes objectives, grading procedures, student information, TRS-80 Network 3 instructions, lesson plans, study guides for tests, and 3-minute timing speed/accuracy table, and a program for 10-key numeric keyboard instructions.

The program to access instructions for the 10-key numeric keyboard practice is not available on the South-Western Microcomputer Keyboarding diskette. This would need to be added if the instructor so desires. However, the student could do these drills on the 10-key calculator rather than on the microcomputer keypad.

IV. POPULATION AND SAMPLE

The students in this study are the eight students who enrolled for and completed keyboarding for the spring semester 1985. In this group there are three Accounting, two Computer Information Systems, one Mid-Management, one Electrical Engineering, and one undecided major. We had anticipated more students in keyboarding but some of those who had a choice, chose typewriting for three hours of credit instead of keyboarding for two hours of credit.

Eleven students began keyboarding, three dropped, and eight finished.

V. CONCLUSIONS AND RECOMMENDATIONS

The outcome of this project cannot be measured precisely because there are too many variables; e.g. there were four instructors involved, the student groups were too small, there was no way to totally separate those students who were taking checkpoints from those who were not, personal motivation, and previous keyboard instruction. However, based on the information gathered from test scores, personal student reaction, and the evaluation form, the following conclusions were drawn:

1. Students like contact with the instructor when it is positive. They like to show someone what they can do.
2. Computers provide adequate instruction for proper position at the keyboard, fingering, and speed and accuracy drills.

3. Students like the microkeyboards better than typewriter keyboards.
4. Some students need much more encouragement from the instructor than do others.
5. The best of both worlds is available when computer-assisted instruction and instructor-assisted instruction are provided in the individualized instruction classroom.

VI. ATTACHMENTS

a. Procedures:

In July and August, 1984, computer-assisted individualized materials were reviewed and the decision was made to purchase the textbook entitled Basic Information and Keyboarding Skills and the Microcomputer Keyboarding diskettes which correspond to the text. These diskettes are for use with the TRS-80 Network 3 microcomputers, and are published by South-Western. Our network consists of a host computer and six slave stations.

After the textbook Basic Information and Keyboarding Skills was purchased, it was learned that another text, Basic Keyboarding and Typewriting Application was available also. This text includes applications which the former does not. Applications for the format for business letters are used from the Applications text to supplement the other text.

The keyboarding course consists of 30 lessons on four diskettes which present the alpha and numeric keyboard. This

information is the computer-assisted portion of the course. In addition, the student learns the symbol keys, 10-key numeric keyboard, and format for business letters.

The students learn to operate the microcomputer keyboard via computer-assisted instruction; the typewriter keyboard via slide/tape presentations; and the 10-key calculator if they choose to practice on this machine.

In September, October, and November, the instructor-assisted individualized materials were prepared. These materials include the syllabus, lesson plans, lesson record sheet, and tests.

Students were enrolled beginning in December and instruction took place through May.

Since we were attempting to compare the success of students who received instruction on learning the keyboard from the computer only with those students who received instruction from the computer and also received individual attention, motivation, and instruction from the instructor, we divided them equally into two groups; one which would receive additional checkpoints from the instructor and the other which would receive instruction only from the computer program. Of those students who enrolled there were composite ACT scores ranging from 8 to 22. The five students who were selected by their own choice to be in the group without checkpoints had composite ACT scores of 19, 19, 13, and 22. One student had not taken the ACT test but was very nervous about having the instructor watch him type so he was allowed to be in that group without checkpoints.

In the other group, the ACT scores were 14, 8, and 8. Three

of the students had not taken the test but preferred to have checkpoints.

The students who were scheduled to take checkpoints requested those checkpoints according to the lesson plan instructions. Those who were not taking checkpoints, followed all instructions except the request for checkpoint.

During the checkpoint the student was asked to demonstrate for the instructor their mastery of that portion of the material. This might include a timed writing and/or question and answer exchange, hand position and stroking technique.

A student evaluation of instruction form was prepared and presented to students as they completed the course.

b. References: NA

c. Bibliography: NA

d. Instruments:

The evaluation form was presented to each student as he or she completed the course. This form was used to help determine the feelings of the student concerning the method of instruction.

e. Glossary:

Instructor-assisted individualized instruction is information presented to the student by means of printed student learning materials, slide tape presentations, computer-assisted instruction, and instructor involvement at all stages of the learning process through answering questions and giving checkpoints.

Checkpoints are periodic checks on the student's progress at which time the instructor answers questions, asks questions, and

visits with the student to determine if he/she understands the instructions and has achieved the objectives for that segment of material.

Computer-assisted individualized instruction is information presented to the students by means of a computer program, responses are accepted and processed by the computer, feedback is provided to the student via computer and the computer maintains various degrees of control over the sequencing of material.

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Summary of Evaluation of Instruction

SUMMARY OF
STUDENT EVALUATION OF INSTRUCTION

COURSE TITLE Keyboarding

INSTRUCTOR Barbara Schulz, Juanita Gerke, Laura Taylor

PROGRAM (check one)

3 Accounting
2 CIS
____ Business Transfer
3 Other (specify) undecided, Mid-Mgmt., Elec., Eng.

STUDENT CLASSIFICATION (check one)

5 Full time (day)
____ Full time (evening)
2 Part time (day)
1 Part time (evening)

TYPE OF TRAINING

5 Pre-service (to gain skills for obtaining employment)
1 In-service (to improve skills for present job)

TIME SPENT IN COMPLETING COURSE REQUIREMENTS (estimate hours) 48, 48, 55, 20, 70, 28

ATTEMPTED PRETESTS? 3 Yes 5 No

If yes, indicate units in which you earned test out credit.

____ 3-minute timing
____ letter typing
____ 10-key speed test

CHECKPOINTS? 5 Yes 3 No

Have you had any typing/keyboarding before? 6 Yes 2 No

If yes to the above question, estimate how much training you have had.

1 1 quarter
2 1 semester
1 1 year
2 other (2 yrs)

INSTRUCTIONS

Please read each of the following statements. Circle the symbol on the right of each statement that most represents your opinion of this course. Your carefully considered responses will definitely be used in the revision of this course.

The symbols are defined as follows:

SA	A	U	D	SD	NA
Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Not Applicable

Syllabus

1.	The course syllabus clearly indicated the procedures and objectives of the course.	5 SA	2 A	U	1 D	SD	NA

Objectives

2.	I understood the objectives.	4 SA	4 A	U	D	SD	NA
3.	I felt that the objectives were important.	2 SA	6 A	U	D	SD	NA
4.	The objectives indicated what I was to achieve, how I was to achieve, and what was acceptable achievement.	4 SA	4 A	U	D	SD	NA

Procedures

5.	The procedures indicated the steps I was to follow.	4 SA	4 A	U	D	SD	NA

Learning Activities

6.	The learning activities were clear and assisted me in achieving the objectives.	2 SA	6 A	U	D	SD	NA
7.	The learning activities were boring.	SA	A	1 U	6 D	1 SD	NA
8.	Opportunities to apply or practice what I learned were provided.	2 SA	5 A	U	1 D	SD	NA
9.	The computer program satisfactorily provided motivation and encouragement.	3 SA	5 A	U	D	SD	NA
10.	I think personal encouragement from the instructor is more motivating than that provided by the computer.	3 SA	3 A	2 U	D	SD	NA

Evaluation

11.	I was aware of my progress as I proceeded through each unit.	1 SA	6 A	1 U	D	SD	NA
12.	The tests measured my achievement of the unit and course objectives.	1 SA	6 A	1 U	D	SD	NA
13.	The tests contained clear directions.	2 SA	5 A	1 U	D	SD	NA
14.	The checkpoints are helpful.	2 SA	4 A	2 U	D	SD	NA
15.	The checkpoints are not necessary.	SA	A	5 U	1 D	2 SD	NA

Media

16.	The media presentation moved too fast for me to learn the materials.	SA	A	U	5 D	3 SD	NA
17.	The media presentation was too long.	SA	1 A	2 U	5 D	SD	NA
18.	The picture quality was good.	1 SA	6 A	1 U	D	SD	NA
19.	The sound quality was good.	1 SA	4 A	1 U	1 D	SD	1 NA
20.	The media presentation helped me understand the content.	1 SA	6 A	1 U	D	SD	NA
21.	The media presentation was interesting to me.	1 SA	4 A	3 U	D	SD	NA

Overall

22.	The instructor was available for assistance when needed.	5 SA	3 A	U	D	SD	NA
23.	I prefer keyboarding on the typewriters.	1 SA	1 A	1 U	3 D	2 SD	NA
24.	I prefer keyboarding on the computers.	3 SA	2 A	2 U	D	1 SD	NA
25.	I was suprised at how quickly I learned the keyboard.	1 SA	5 A	2 U	D	SD	NA

. The things I liked best about this course were: See below.

_____

_____

_____

7. The things I liked least about this course were: See below.

_____

_____

_____

6. a. I was able to go my own speed and I could come in on my own and type. The teacher was very nice and helpful.
b. That I learned how to type so as to type up any and all research materials myself.
c. Using keyboard on the computer. I like it better than the typewriter.
d. The overall computer program really helped make the typing easier and more fun.
e. Computers
f. All in all I feel the course was real interesting. I feel I learned from both the computer and typewriter keyboards.
g. The instructors were very encouraging and helpful. I was always motivated to continue, even after working at a computer all day and then again here at class.
h. The instructor was there when I needed her for help and encouragement.

7. a. I really have nothing that I liked least. For a person to learn he will have to motivate himself at whatever he does.
b. Having to type on typewriters
c. Going from keyboard to typewriter to take timed writings
d. My bad timings
e. I think once you have learned to keyboard on the computer all typing tests should be done on the computer. When the lessons drop off (#33) and you have to continue on the typewriter, it is more difficult to just pick right up.
f. The long instructions on the disk.

Syllabus

SYLLABUS

for

KEYBOARDING

Two Semester Credits

Description of Course: This is an individualized course designed to provide the student with mastery of touch operation of the computer/typewriter keyboard including alphabetic, numeric, and symbol keys; basic introduction to letter format and touch operation of the ten-key numeric keypad.

KEYBOARDING FOR COMPUTERS

OBJECTIVES

The following objectives must be met before a grade or credit will be given for the completion of Keyboarding for Computers.

The student will be able to:

1. Touch type paragraph material using correct typing position and typing techniques at a minimum of 26 gross words per minute with 97 percent accuracy for three minutes.

2. Type in mailable form letters with a minimum of 85 percent accuracy of total points possible on production lessons.

3. Demonstrate touch operation of the ten-key numeric keypad by adding 6 columns of 4 digit numbers on the computer keypad with 90 percent accuracy in a minimum of 1½ minutes.

4. Demonstrate knowledge of keyboarding fundamentals by completing a written midcourse and final exam with a minimum of 70 percent accuracy.

MATERIALS

You will need the following materials for use in Keyboarding for Computers:

* Typing textbook
  Lesson plans
  Slide/Tape presentations
  Modules
* Typing paper
* Correction film
* Pen or pencil

* student provides

GRADING PROCEDURES

Grades will be determined by student performance in the following areas:

Gross Words A Minute

C - 26-29
B - 30-34
A - 35 up

C - 97 percent accuracy
B - 98 percent accuracy
A - 99 percent accuracy

(Speed and accuracy of timed writings will be averaged to determine timed writing grade.)

10-Key Speed Takes (6 columns of 4 digit numbers; 90% accuracy)

C - 1½ minutes
B - 1 minute 20 seconds
A - 1 minute 10 seconds

Mailable Production

C - 85 percent accuracy
B - 90 percent accuracy
A - 95 percent accuracy

Production Test

C - 97 percent accuracy
B - 98 percent accuracy
A - 99 percent accuracy

(Speed will be determined by type of material)

Written Tests (midcourse and final)

C - 70 percent accuracy
B - 80 percent accuracy
A - 90 percent accuracy

A grade for each of the above areas will be figured and a final grade will be computed based on the following scale:

Gross Words A Minute	30 percent
Mailable Production	10 percent
10-Key Speed Test	20 percent
Production Test	30 percent
Written Tests	10 percent

PRETEST

Students who have previous keyboarding experience will be given a pretest to determine their skill level. Students who complete the sections satisfactorily will receive test-out credit. Those who complete part of the test satisfactorily may receive advanced placement in Keyboarding for Computers.

CHECKPOINTS

Students are instructed to see their instructor for a checkpoint on various lessons. The checkpoint is a procedure used by the instructor to evaluate student performance throughout the course. A checkpoint given by the instructor may include the following: reviewing a completed lesson, giving a timed writing, observing keyboarding techniques, asking questions, explaining procedures, or evaluating progress. The instructions on the lesson plan will indicate what will be expected of students at checkpoint. On various lessons throughout the course, students are not required to take a checkpoint. However, students who have questions, problems, or are not able to meet the lesson's goal are instructed to see their instructor.

MAILABLE PRODUCTION

Lesson production work such as letters will be graded for mailability. Work considered unmailable will be returned to the student. The student will either correct or retype the work and then a grade will be assigned to the lesson. Each graded production lesson is worth 20 points. Two points are deducted for each error.

TIMINGS

Timed writings and speed takes will be required of students on a regular basis to determine their keyboarding speed. The timings are given by the instructor or self-administered by the student.

WRITTEN TESTS

Two written tests are included in keyboarding: a midcourse exam and a final. A study guide for each test is provided. Students should review the study guide in preparation for each test.

STUDENT FOLDERS

When assignments have been completed and approved, they will be filed in each student's individual folder. Students may review their completed work by requesting their folder from the instructor.

COMPLETION OF LESSONS

Keyboarding is individualized and contains instruction on touch operation of typewriter/computer keyboarding including alphabetic, numeric, and symbol keys plus operation of the 10-key numeric keypad. Each student can (along with the instructor's help) plan the course work to best fit his/her needs.

NETWORK 3 INSTRUCTIONS

At the Network 3 Controller:

1. Make sure the Network 3 Controller is ON (the Power button on the front of the Controller should be illuminated).

2. The Mode button should NOT be illuminated; if it is, press the Mode button once and the light will go off.

At each Student Station:

3. Make sure each computer is ON (the ON/OFF switch is under the right side of the keyboard).

At the Host Computer:

4. Make sure the computer is ON (the ON/OFF switch is under the right side of the keyboard).

5. Insert the backup copy of the Network 3 software diskette in Drive 0 (the bottom drive) with the label facing up and the square notch to the left, close the disk drive door, and press the orange Reset button.

6. Type the date, using two digits each for the month, day, and year, with a slash separating each pair. Then press ENTER.

7. When Baud rate? appears on the screen, press ENTER. * The copyright information will appear on the screen, along with the following lines:

```
STUDENT STATION: --
   PRINT SPOOL: --
    FILES OPEN: --
```

8. At each Student Station:

When the screen shows:	You type:
Cass?	>ENTER<
Memory Size?	>ENTER<
Ready	System >ENTER<
*?	/12363 >ENTER< (student station will now load from Host disk)
Baud rate?	>ENTER<

The Student Station should now display the "Network 3" prompt. Now, type DISK1 or DISK2 or DISK3, or DISK4 depending on which disk is loaded in the Host computer. >ENTER<

Several screens of information will automatically appear. When the Main Menu appears, choose the Lesson you need by following the instructions on the screen.

When you begin a lesson, you will need to complete that lesson by going completely through it as you cannot back up to an earlier section of that lesson without having to bring up the keyboarding program again. This is no problem except that it takes time. Pressing the orange reset button will cause you to need to bring up the program again also.

To print, press the Shift key, down-arrow key and the asterisk key all at the same time. You can print only what is on the screen at the time you press the print keys.

If you finish only part of a lesson during a class period, when you come to class the next time, select that lesson from the main menu; and then select the section of the lesson that you need to begin with.

For additional practice, use your textbook and a typewriter or go over the lesson again on the computer.

Students using the Network 3 keyboarding program will need to communicate periodically. For instance, if two or more students give a print command at the same time, the system will lock up and to get the program back the system will have to be turned off and the start-up procedure followed again. When this is done, the information each student has on the screen will probably be lost. So, before you give a print command, check to see that you are not giving it at the same time as another student.

Also, disks will need to be changed from time to time for students who are on various lessons. DO NOT change a disk without checking with the lab supervisor or instructor first.

KEYBOARDING LESSON PLANS

Disk 1 (Lessons 1-9)

General Instructions: Follow instructions on diskette. For additional practice you may repeat the lesson on the computer or you can practice at the typewriter. Each time you are instructed to take a timed writing, print out the timing and hand it in. In the upper right corner write your name, time of class, date, and lesson number. Specific instructions are given for some lessons. Checkpoints may be given on the computer or on the typewriter.

Lesson 1
- Diskette instructions
- "Introduction to Typing" Module
- Checkpoint over Lesson 1 and module

Lesson 2
- Diskette instructions
- "IBM Selectric Typewriter" Module
- Checkpoint over Lesson 2 and module

Lesson 3
- Diskette instructions

Lesson 4
- Diskette instructions

Lesson 5
- Diskette instructions
- Print out and hand in your best timing
- Checkpoint

Lesson 6
- Diskette instructions
- Print out and hand in your best timing

Lesson 7
- Diskette instructions
- Timing

Lesson 8
- Diskette instructions
- Timing
- Checkpoint

Lesson 9
- Diskette instructions
- Timing

Disk 2 (Lessons 10-17)

Lesson 10
- Diskette instructions
- Timing

Lesson 11
- Diskette instructions
- Timing
- Checkpoint - spacing after period after abbreviation and at end of sentence, spacing after comma and semi colon

Lesson 12
- Diskette instructions
- Timing

Lesson 13
- Diskette instructions
- Timing

Lesson 14
- Diskette instructions
- Timing
- Checkpoint - spacing after ? within sentence; at end of sentence

Lesson 15
- Diskette instructions
- Refer to 15d in text and complete that exercise
- Hand in 15d

Lesson 16
- Diskette instructions
- Timing

Lesson 17
- Diskette instructions
- Timing
- Checkpoint - abbreviations such as ERA, AMA, TVA typed solid (no internal spacing) and without periods
  Tabbing (Lesson 15)
- 1-minute instructor timing on lines using all letters learned

Disk 3 (Lessons 18-25)

Lesson 18
- Diskette instructions
- Timing

Lesson 19
- Diskette instructions
- Timing

Lesson 20
- Diskette instructions
- Timing
- 2-minute instructor timing on paragraph and guided writing practice

Lesson 21
- Diskette instructions
- Timing

Lesson 22
Diskette instructions
Timing

Lesson 23
Diskette instructions
Checkpoint - Proofreader's marks
Refer to exercise 23d and follow practice plan. Hand in 23d.

Lesson 24
Diskette instructions

Lesson 25
Diskette instructions
3-minute instructor timing

Disk 4 (Lessons 26-30 and Skill Builders 1-5)
Lesson 26
Diskette instructions
1, 2, and 3 minute instructor timings. Goals: 1 minute: at least 21 gwam; 2 minute: at least 29 gwam; 3 minute: at least 18 gwam

Lesson 27
Diskette instructions

Lesson 28
Diskette instructions
Hand in tabulator drill on exercise 28b.
1 minute instructor timing on all figures learned

Lesson 29
Diskette instructions

Lesson 30
Diskette instructions
Hand in exercise 30b.
3-minute instructor timing

Review study guide for midcourse test and take test.

Lessons 31-35
Lessons in this unit will be completed on the typewriter. There are no diskettes for them.

Lesson 31
Follow instructions from the text

Lesson 32
Follow instructions from the text
Checkpoint on symbols $ / # ( ) %
3-minute instructor timing

Lesson 33
Follow instructions in text

Lesson 34
Follow instructions in text

Lesson 35
Follow instructions in text
Checkpoint on & - -- " _ ' *
3 minute instructor timing

Lesson 37
Follow instructions in text
Checkpoint on tabbing, backspacing, and word division rules.

10-key Numeric Keyboard

To access the 10-key numeric keyboard practice diskette follow the Network 3 instructions except when the "Network 3" prompt appears, type NBASIC Keypad. Several screens of instructions will automatically appear. When the menu appears, you select the activity you wish to work on. You will need to have your text for these activities.

Activity 1 (or Lesson 41)
Drills 1-5
Practice all drills. Redo the drills if you do not achieve 100% accuracy. You may practice them slowly at first and then faster. Do not watch your fingers. Watch the screen.

Activity 2 (or Lesson 42)
Drills 1-4

Activity 3 (or Lesson 43)
Drills 1-4

Activity 6 (or Lesson 45)
Drills 1-4

When you have completed all activities and drills, request a stop watch so you can time yourself on the drills from Activity 6. Refer to the grading procedures for goals. Of course, you may use your book and a 10-key calculator for additional practice.

Letter format (Request handout or use Basic Keyboarding and Typewriting Applications text)
Business letters
Do 41b
Do 42c
Use film correction product. Ask the instructor to demonstrate how to use this correction product.
Hand in entire lesson. The letter must be mailable (all errors corrected).
Request 3 minute instructor timing and checkpoint

Do 44a
Do 44c
Hand in.

Do 45a, 45b, 45c, 45d (correct all errors on 45d)
Hand in.
Checkpoint - 3-minute instructor timing, spacing for business letters, parts of business letter, open punctuation, block style

Final tests
Production Test
Written Test (Review study guide)

"The activity which is the subject of this report was supported in whole or in part by funds from the Department of Elementary and Secondary Education, Division of Career and Adult Education. However, the opinions expressed herein do not necessarily reflect the position or policies of the Missouri Department of Elementary and Secondary Education or the Division of Career and Adult Education, and no official endorsement should be inferred."

Gross Words A Minute (GWAM)	Total Word Count	Number of Errors Allowed* A 99% accuracy	B 98% accuracy	C 97% accuracy
80	240	0-2	3-5	6-7
79	237	0-2	3-5	6-7
78	234	0-2	3-5	6-7
77	231	0-2	3-5	6-7
76	228	0-2	3-5	6-7
75	225	0-2	3-5	6-7
74	222	0-2	3-4	5-7
73	219	0-2	3-4	5-7
72	216	0-2	3-4	5-6
71	213	0-2	3-4	5-6
70	210	0-2	3-4	5-6
69	207	0-2	3-4	5-6
68	204	0-2	3-4	5-6
67	201	0-2	3-4	5-6
66	198	0-2	3-4	5-6
65	195	0-2	3-4	5-6
64	192	0-2	3-4	5-6
63	189	0-2	3-4	5-6
62	186	0-2	3-4	5-6
61	183	0-2	3-4	5
60	180	0-2	3-4	5
59	177	0-2	3-4	5
58	174	0-2	3	4-5
57	171	0-2	3	4-5
56	168	0-2	3	4-5
55	165	0-2	3	4-5
54	162	0-2	3	4-5
53	159	0-2	3	4-5
52	156	0-2	3	4-5
51	153	0-2	3	4-5
50	150	0-2	3	4-5
49	147	0-1	2-3	4
48	144	0-1	2-3	4
47	141	0-1	2-3	4
46	138	0-1	2-3	4
45	135	0-1	2-3	4
44	132	0-1	2-3	4
43	129	0-1	2-3	4
42	126	0-1	2-3	4
41	123	0-1	2-3	4
40	120	0-1	2	3-4
39	117	0-1	2	3-4
38	114	0-1	2	3
37	111	0-1	2	3
36	108	0-1	2	3
35	105	0-1	2	3
34	102	0-1	2	3
33	99	0-1	2	3
32	96	0-1	2	3
31	93	0-1	2	3
30	90	0-1	2	3
29	87	0-1	2	3
28	84	0-1	2	3
27	81	0-1	2	--
26	78	0-1	2	--

*Based on percent of total words typed.
--Numbers of errors allowed is the same as the next highest grade.

STUDY GUIDES and TESTS

NAME_____

Class Hour_____

KEYBOARDING PREVIEW TEST

SCORE

3-minute Timed Writings

No. 1, Minimum 25/4 _____

No. 2, Minimum 25/4 _____

Letter Typing (15 minutes)

Minimum 10/5 _____

10-Key Speed Test
(5 or 6 columns correct
in 1½ minutes) _____

PLACEMENT _____

STUDY GUIDE FOR KEYBOARDING
MIDCOURSE WRITTEN EXAM

The midcourse exam is to be taken soon after you complete Lesson 30. To prepare for it, review the following:

1. Slide/Tape presentation 1, Introduction To Typing.

2. Slide/Tape presentation 3, IBM Selectric Typewriter

3. Proofreader's marks

4. Proper spacing after marks of punctuation. This information is included in your text under "Spacing Cues" as on page 17 where it instructs you to space once after . following an initial or at the end of an abbreviation; twice at end of sentence.

STUDY GUIDE FOR KEYBOARDING FINAL WRITTEN EXAM

The written exam is to be taken when you have completed the entire course. To prepare for it, review the following:

1. Slide/Tape presentation 1, Introduction to Typing.
2. Slide/Tape presentation 3, IBM Selectric Typewriter.
3. Proofreader's marks.
4. Symbols such as "&". You should know the names of such symbols and why they are used.
5. Word division rules.

Name_____

Score_____

KEYBOARDING

Written Final Exam
(116 points - 4 points each answer)

Write the word or number on the line provided at the left that correctly completes each of the following.

_____ 1. Horizontal center point of elite typewriter.

_____ 2. Characters available per horizontal inch on an elite typewriter.

_____ 3. Horizontal center point of a pica typewriter.

_____ 4. Characters available per horizontal inch on a pica typewriter.

_____ 5. Number of spaces available on an elite typewriter for paper measuring 5 1/2 inches wide.

_____ 6. Words should be divided only between _____.

_____ 7. _____ space between paragraphs in a letter.

_____ 8. When _____ punctuation is used in a letter, no punctuation is used following the salutation and complimentary close.

_____ 9. The salutation of a business letter should be preceded and followed by a _____ space.

_____10. In notes and letters typed in block style, all lines begin at the _____.

_____11. The symbol which stands for pounds or number.

_____12. The symbol which stands for "and".

_____13. The symbol for quotation mark.

_____14. The symbol for apostrophe.

On the line provided, indicate the proofreader's mark used to represent each of the following.

_____15. Insert

_____16. Add space

_____17. Close up space

_____18. Transpose

_____19. Capitalize

On the line provided, indicate the correct word division. If it should not be divided, leave it blank.

_____20. quickly

_____21. increase

_____22. agreeing

_____23. separate

_____24. enough

_____25. self-serve

Figure the left and right margins for the following:

Left Right

_____26. _____27. a 50-space line on an elite typewriter.

_____28. _____29. a 60-space line on a pica typewriter.

Name_____

Score_____

KEYBOARDING

Written Midcourse Exam
(after Lesson 30)

On the blank line before each item in the left column, write the letter of the correct answer located in the right column. (Each question worth 4 points. 100 total)

_____	1.	Allows paper to be inserted and aligned evenly	A. 5 B. element C. tab key
_____	2.	Width (in inches) of typing paper	D. 85 E. carrier
_____	3.	Horizontal center point of elite typewriter	F. 50 G. 10 H. variable line spacer
_____	4.	Characters available on each horizontal line of paper on an elite typewriter	I. 8 1/2 J. 11 K. printing point indicator
_____	5.	Horizontal center point of pica typewriter	L. 102 M. tab control
_____	6.	Contains the type face	N. 42 O. line space lever
_____	7.	Characters available on each horizontal line of paper on a pica typewriter	P. 12 Q. 40 R. 3 S. line finder
____	8.	Number of blank lines between triple-spaced copy	T. 2 U. multiple character key
_____	9.	Moves the carrier to a tab stop	V. index key W. impression control
____	10.	Characters available for each horizontal inch of pica type	X. 51 Y. paper release lever
_____	11.	Characters available for each horizontal inch of elite type	Z. page-end indicator

On the line provided, indicate the proofreader's mark used to represent each of the following.

12. _____Delete

13. _____Move to left

14. _____Close up space

15. _____Insert period

16. _____Transpose

17. _____Add space

18. _____Paragraph

19. _____Capitalize

Write the word or number on the line provided that correctly completes each of the following.

20. _____ Copy that is corrected with pen or pencil is called _____.

21. _____ Space ____ after a period following an abbreviation.

22. _____ Space ____ after a semi-colon.

23. _____ Space ____ after a period at the end of a sentence.

24. _____ Space ____ after a colon.

25. _____ Space ____ after a question mark at the end of a sentence.

KEYBOARDING FINAL PRODUCTION TEST

3-Minute Timed Writings

Instructions: Use double-spacing, 50-space line, 5-space paragraph indention. Repeat the material as many times as you can within the time limit. Copy the material line for line.

	Words
If you would like to become a rich person in	10
a rush, just invent some kind of pill or tonic or	20
powder a typist could take to double his skill in	30
typing. Do you realize that there are about nine	40
million typists in offices and about five million	50
more in classrooms who would be glad to pay a few	60
dollars for such a quick route to excellence? It	70
is so. It is nice to know that no one has beaten	80
you to the invention yet; although, come to think	90
about it, it would be handy to be able to stop at	100
a shop and pick up a box of words a minute, would	110
it not? For the present, though, just like those	120
who learned to type before we did, we shall drill	130
and drill our fingers until at last they learn to	140
eat up the word meals that our eyes feed to them.	150

KEYBOARDING FINAL PRODUCTION TEST

Letter Typing

Instructions: Use a full sheet of paper, the current date started on Line 15, a 50-space line for pica type and a 60-space line for elite type, and open punctuation. Use the full block style letter. Correct errors. This letter has 139 words. (15 Minutes)

Date / Bruscarelli's / 23 Grand Avenue East / St. Louis, MO 63126 / Gentlemen / (P 1) One afternoon several weeks ago I was in St. Louis visiting my ccousin, and I stopped to shop in your store. I purchased a pure silk Graymoor tie for $4.50. (P 2) I have worn the tie several times and, frankly, am quite disappointed with it. Not only has it frayed along both edges, but the fabric is so weak in one place that it appears ready to separate. (P 3) Your shop enjoys an excellent reputation for good service and fine merchandise, and I am sure you will want to make an adjustment for this tie. Shall I return it to you by mail? / Yours truly / S. Price Beaumont /

Lesson Record Sheet

KEYBOARDING
Lesson Record Sheet

Name _____
Date Started _____

Lesson/Date
Use Microcomputer Disk 1 — Timed Writings (Speed/Percent of Accuracy) — Production — Modules — Test Production Written

1* ____ 2* ____

3 ____ 4 ____

5* ____ 6 ____

7 ____ 8* ____

Disk 2

9 ____ 10 ____

11* ____ 12 ____

13 ____ 14* ____

15 ____ 16 ____

Disk 3

17* ____ 18 ____

19 ____ 20 ____

21 ____ 22 ____

23* ____ 24 ____

Disk 4

25 ____ 26 ____ ____ (3')

27 ____ 28 ____

29 ____ 30 ____ ____ (3')

Use typewriter

31 ____ 32* ____ ____ (3')

33 ____ 34 ____

35* ____ ____ (3')

41 ____ 42 ____ ____ (3') ____ (3')

43 ____ 44 ____ 45 ____

Handout Material

41b ____ 42c ____ ____ (3') ____ ____

44a,c ____ 45a,b,c,d ____ ____ (3') ____ ____

*Checkpoint
____ Supervised 3' timing

Intro to Typing _____

IBM Sel. Typewriter _____

10-Key Speed Test _____

Midcourse _____

Prod. Test _____ Final _____

Grade Summary
GWAM (30%) _____ (Speed) _____ (Accuracy) = _____
Mailable Production (20%) _____
10-Key Speed (20%) _____
Written Tests (10%) _____
Production Tests (20%) _____
Final Grade _____
Date Completed _____

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10-Key Numeric Keyboard Program

```
10 REM -- KEYPAD --
11 REM WRITTEN BY TAMMIE MORRISON FOR BUSINESS & OFFICE KEYBOARDING INSTRUCTION
12 REM
13 REM THIS IS THE INITIAL PROGRAM TO START THE KEYPAD INSTRUCTION.
14 REM AFTER YOU ARE IN NBASIC, TYPE RUN "KEYPAD" AND STRIKE THE ENTER.
15 REM
20 CLEAR
50 GOSUB 300
100 REM -- SELECTION OF LESSONS --
110 CLS :PRINT TAB(20)"ACTIVITY SELECTION"
120 PRINT:PRINT:PRINT TAB(21)"1 - ACTIVITY 1"
130 PRINT TAB(21)"2 - ACTIVITY 2"
140 PRINT TAB(21)"3 - ACTIVITY 3"
150 PRINT TAB(21)"4 - ACTIVITY 4"
160 PRINT TAB(21)"5 - ACTIVITY 6"
170 PRINT TAB(21)"6 - END PROGRAM":PRINT:PRINT
180 L%=0:INPUT "ENTER THE CORRESPONDING NUMBER OF DESIRED ACTIVITY";L%
190 IF L% = 6 THEN END
200 IF L%<1 OR L%>5 THEN GOTO 100
210 ON L% GOTO 230,240,250,260,270
230 RUN "LESSON41"
240 RUN "LESSON42"
250 RUN "LESSON43"
260 RUN "LESSON44"
270 RUN "LESSON45"
300 REM -- PRINT LEARNING GOALS --
310 CLS:PRINT TAB(5)"UNIT 7 ACTIVITIES 1-5":PRINT TAB(5)"Learn to Operate 10-key
 Numeric Keyboard":PRINT:PRINT
320 PRINT "1.  To learn key locations and keyboarding technique on a 10-key    n
umeric pad on a data processor.":PRINT
325 FOR X = 1 TO 800:NEXT X
330 PRINT "2.  To learn to enter figures rapidly and accurately by touch       (
without looking)."
335 FOR X = 1 TO 3000 :NEXT X
340 RETURN
```

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```
10 REM -- LESSON41 --
11 REM
12 REM WRITTEN BY TAMMIE MORRISON FOR BUSINESS & OFFICE KEYBOARDING INSTRUCTION
13 REM
15 REM THIS IS ACTIVITY 1 FOR THE 10-KEY KEYPAD.
20 REM DRILLS 1-5 WITH TOTALS AND PERCENT ACCURACY FOR EACH
30 CLEAR 1000
40 DIM DR(5,6)
50 FOR X = 1 TO 5:FOR Y = 1 TO 6
60 READ DR(X,Y):NEXT Y:NEXT X
70 DATA 12,15,18,12,15,18
71 DATA 132,165,198,132,165,198
72 DATA 165,165,165,135,165,195
73 DATA 120,150,180,1200,1500,1800
74 DATA 150,1500,1515,1518,1395,1815
80 GOSUB 500
100 CLS.PRINT TAB(25)"Activity 1"
110 PRINT:PRINT
120 INPUT "ENTER THE NUMBER OF THE DRILL THAT YOU WANT OR                    'END
  FOR ANOTHER ACTIVITY";D$
125 IF D$ = "END" THEN RUN "KEYPAD"
130 IF VAL(D$) < 1 OR VAL(D$) > 5 THEN GOTO 120
140 GOSUB 200
150 GOTO 100
200 REM -- DRILLS 1-5 --
205 D=VAL(D$):TS=0:TB=249:FOR X=1 TO 6:FOR Y=1 TO 3:N(Y,X)=0:GT(X)=0:NEXT Y:NEXT
 X
210 FOR P = 1 TO 6
220 CLS:PRINT TAB(10)"Activity 1";TAB(30)"DRILL";D:PRINT:PRINT
225 TB=TB+10:TP=TB
230 IF P=1 THEN PRINT @192,"A)" ELSE IF P=2 THEN PRINT @202,"B)" ELSE IF P=3 THE
N PRINT @212,"C)" ELSE IF P=4 THEN PRINT @222,"D)" ELSE IF P=5 THEN PRINT @232,"
E)" ELSE IF P=6 THEN PRINT @242,"F)"
240 FOR Q = 1 TO 3
250 N=0:PRINT @TP,"";:INPUT N(Q,P)
260 GT(P) = GT(P) + N(Q,P):TP=TP+64
270 NEXT Q:PRINT @TP,"-----"
280 PRINT @TP+64,GT(P):IF GT(P) = DR(D,P) THEN TS=TS+1
285 GT = 0 : FOR X = 1 TO 100:NEXT X
290 NEXT P:GOSUB 300:PRINT INT(TS/6*100)"% ACCURACY ON DRILL";D:INPUT "STRIKE EN
TER";X$:RETURN
300 REM -- PRINT OUT DRILL --
305 TB=249
310 CLS :PRINT TAB(10) "Activity 1";:PRINT TAB(30) "DRILL";D
320 PRINT @192,"A)":PRINT @202,"B)":PRINT @212,"C)":PRINT @222,"D)":PRINT @232,"
E)":PRINT @242,"F)"
330 FOR P = 1 TO 6
335 TB=TB+10:TP=TB
340 FOR Q = 1 TO 3
345 N$=STR$(N(Q,P))
347 IF LEN(N$)< 4 THEN N$=" "+N$:GOTO 347
350 PRINT @TP,N$;
355 TP=TP+64
360 NEXT Q
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```
363 PRINT @TP,"-----";
365 GT$=STR$(GT(P))
366 IF LEN(GT$)  > 4 THEN TP=TP-1
367 IF LEN(GT$)< 4 THEN GT$=" "+GT$:GOTO 367
370 PRINT @TP+64,GT$;
380 NEXT P
390 PRINT:PRINT
400 RETURN
500 REM -- PRINT INFORMATION FOR LESSON 41"
505 CLS:PRINT "Activity 1"
510 PRINT "ENTER DATA USING HOME KEYS: 4,5,6,0":PRINT:PRINT
520 PRINT "1.  Curve the fingers of your right hand aNd place them upright     o
 home keys:":PRINT "    first(index) finger on 4":PRINT "    second finger on 5
:PRINT "    third finger on 6"
525 PRINT "    fourth finger on ENTER":PRINT "    thumb on 0":PRINT
527 FOR X = 1 TO 5000:NEXT X
530 PRINT "2.  Enter data in Drill 1a as follows:":PRINT "    4 ENTER":PRINT "
  4 ENTER":PRINT"    4 ENTER":PRINT
535 FOR X = 1 TO 1000:NEXT X
540 PRINT "3.  The total will appear on the screen display, but only for       a
 short time.  There will be a chance to check your answers     at the end of the
 drill.":PRINT
545 FOR X = 1 TO 4000:NEXT X
550 PRINT "4.  Enter all the columns a-f and then check your answers which     w
ill reappear on the screen display.  Redo the drills if        necessary.":PRINT
555 FOR X = 1 TO 6000:NEXT X
560 PRINT "Technique Cue":PRINT"     Strike each key with a quick, sharp stroke
with the tip of the finger; release the key quickly.  Keep the fingers curved
and upright, the wrist low, relaxed, and steady."
570 FOR X = 1 TO 7000:NEXT X
580 RETURN
```

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```
10 REM -- LESSON42 --
11 REM
1[illegible] REM WRITTEN BY TAMMIE MORRISON FOR BUSINESS & OFFICE KEYBOARDING INSTRUCTION
1[illegible] REM
15 REM THIS IS ACTIVITY 2 FOR THE 10-KEY KEYPAD.
2[illegible] REM DRILLS 1-4 WITH TOTALS AND PERCENT ACCURACY FOR EACH
3[illegible] CLEAR 1000
40 DIM DR(4,6)
50 FOR X = 1 TO 4:FOR Y = 1 TO 6
6[illegible] READ DR(X,Y):NEXT Y:NEXT X
70 DATA 1998,1998,2331,2331,2664,2664
71 DATA 1995,2328,2661,2564,1754,2556
7[illegible] DATA 1914,2235,2556,2640,2424,1524
7[illegible] DATA 2866,1731,2232,2724,3319,3626
80 GOSUB 500
1[illegible]0 CLS:PRINT TAB(25)"ACTIVITY 2"
1[illegible]0 PRINT:PRINT
120 INPUT "ENTER THE NUMBER OF THE DRILL THAT YOU WANT OR                    'END
' FOR ANOTHER ACTIVITY";D$
1[illegible]5 IF D$ = "END" THEN RUN "KEYPAD"
1[illegible]0 IF VAL(D$) < 1 OR VAL(D$) > 4 THEN GOTO 100
140 GOSUB 200
1[illegible]0 GOTO 100
2[illegible]0 REM -- DRILLS 1-4 --
205 D=VAL(D$):TS=0:TB=248:FOR X=1 TO 6:FOR Y=1 TO 3:N(Y,X)=0:GT(X)=0:NEXT Y:NEXT
X
2[illegible]0 FOR P = 1 TO 6
220 CLS:PRINT TAB(10)"ACTIVITY 2";TAB(30)"DRILL";D:PRINT:PRINT
225 TB=TB+10:TP=TB
2[illegible]0 IF P=1 THEN PRINT @192,"A)" ELSE IF P=2 THEN PRINT @202,"B)" ELSE IF P=3 THE
N PRINT @212,"C)" ELSE IF P=4 THEN PRINT @222,"D)" ELSE IF P=5 THEN PRINT @232,"
E)" ELSE IF P=6 THEN PRINT @242,"F)"
2[illegible]5 IF D = 4 THEN E = 4 ELSE E = 3
2[illegible]0 FOR Q = 1 TO E
250 N=0:PRINT @TP,"";:INPUT N(Q,P)
260 GT(P) = GT(P) + N(Q,P):TP=TP+64
2[illegible]0 NEXT Q:PRINT @TP,"-----"
280 PRINT @TP+64,GT(P):IF GT(P) = DR(D,P) THEN TS=TS+1
285 GT = 0 : FOR X = 1 TO 100:NEXT X
2[illegible]0 NEXT P:GOSUB 300:PRINT INT(TS/6*100)"% ACCURACY ON DRILL";D:INPUT "STRIKE EN
TER";X$:RETURN
300 REM  - PRINT OUT DRILL --
3[illegible]5 TB=248
3[illegible]0 CLS :PRINT TAB(10) "ACTIVITY 2";:PRINT TAB(30) "DRILL";D
320 PRINT @192,"A)":PRINT @202,"B)":PRINT @212,"C)":PRINT @222,"D)":PRINT @232,"
E)":PRINT @242,"F)"
3[illegible]0 FOR P = 1 TO 6
3[illegible]5 TB=TB+10:TP=TB
337 IF D = 4 THEN E = 4 ELSE E = 3
3[illegible]0 FOR Q = 1 TO E
3[illegible]5 N$=STR$(N(Q,P))
347 IF LEN(N$)< 5 THEN N$=" "+N$:GOTO 347
3[illegible]0 PRINT @TP,N$;
3[illegible]5 TP=TP+64
360 NEXT Q
```

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```
363 PRINT @TP,"-----";
365 GT$=STR$(GT(P))
366 IF LEN(GT$) = > 6 THEN TP=TP-1
367 IF LEN(GT$)< 5 THEN GT$=" "+GT$:GOTO 367
370 PRINT @TP+64,GT$;
380 NEXT P
390 PRINT:PRINT
400 RETURN
500 REM -- INTRODUCTION TO LESSON 42 --
510 CLS:PRINT "ACTIVITY 2":PRINT"LEARN NEW KEYS:  7,8,9":PRINT
520 PRINT "Learn to reach to 7:":PRINT "1. Locate 7(above 4) on the keypad"
530 PRINT "2. Watch your index finger move up to 7 and back to 4 a few        ti
es without striking keys."
540 PRINT "3. Practice striking 74 a few times as you watch the finger.":PRINT
550 PRINT "Learn to reach to 8:":PRINT "   Learn the second-finger reach to 8(ab
ve 5) as directed in   steps 1-3 above.":PRINT
560 PRINT "Learn to reach to 9:":PRINT "   Learn the third-finger reach to 9(abo
ve 6) as directed above"
570 FOR X = 1 TO 10000:NEXT X
580 RETURN
```

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```
10 REM -- LESSON43 --
11 REM
12 REM WRITTEN BY TAMMIE MORRISON FOR BUSINESS & OFFICE KEYBOARDING INSTRUCTION
13 REM
15 REM THIS IS ACTIVITY 3 FOR THE 10-KEY KEYPAD.
20 REM DRILLS 1-4 WITH TOTALS AND PERCENT ACCURACY FOR EACH
30 CLEAR 1000
40 DIM DR(4,7)
50 FOR X = 1 TO 4:FOR Y = 1 TO 7
60 READ DR(X,Y):NEXT Y:NEXT X
70 DATA 666,666,999,999,1332,1332,855
71 DATA 666,999,1332,854,1574,819,801
72 DATA 738,1093,1404,660,846,1746,2500
73 DATA 264,246,1506,624,1584,774,1395
80 GOSUB 500
100 CLS:PRINT TAB(25)"ACTIVITY 3"
110 PRINT:PRINT
120 INPUT "ENTER THE NUMBER OF THE DRILL THAT YOU WANT OR                    'END
' FOR ANOTHER ACTIVITY";D$
125 IF D$ = "END" THEN RUN "KEYPAD"
130 IF VAL(D$) < 1 OR VAL(D$) > 4 THEN GOTO 120
140 GOSUB 200
150 GOTO 100
200 REM -- DRILLS 1-4 --
205 D=VAL(D$):TS=0:TB=247:FOR X=1 TO 7:FOR Y=1 TO 3:N(Y,X)=0:GT(X)=0:NEXT Y:NEXT
X
210 FOR P = 1 TO 7
220 CLS:PRINT TAB(10)"ACTIVITY 3";TAB(30)"DRILL";D:PRINT:PRINT
225 TB=TB+9:TP=TB
230 IF P=1 THEN PRINT @192,"A)" ELSE IF P=2 THEN PRINT @201,"B)" ELSE IF P=3 THE
N PRINT @210,"C)" ELSE IF P=4 THEN PRINT @219,"D)" ELSE IF P=5 THEN PRINT @228,"
E)" ELSE IF P=6 THEN PRINT @237,"F)" ELSE IF P=7 THEN PRINT @246,"G)"
240 FOR Q = 1 TO 3
250 N=0:PRINT @TP,"";:INPUT N[illegible] P)
260 GT(P) = GT(P) + N(Q,P):T[illegible]+64
270 NEXT Q:PRINT @TP,"-----"
280 PRINT @TP+64,GT(P):IF GT(P) = DR(D,P) THEN TS=TS+1
285 GT = 0 : FOR X = 1 TO 100:NEXT X
290 NEXT P:GOSUB 300:PRINT INT(TS/7*100)"% ACCURACY ON DRILL";D:INPUT "STRIKE EN
TER";X$.RETURN
300 REM -- PRINT OUT DRILL --
305 TB=245
310 CLS :PRINT TAB(10) "ACTIVITY 3";:PRINT TAB(30) "DRILL";D
320 PRINT @192,"A)":PRINT @202,"B)":PRINT @212,"C)":PRINT @222,"D)":PRINT @232,"
E)":PRINT @24[illegible],"F)":PRINT @252,"G)"
330 FOR P = 1 TO 7
335 TB=TB+10:TP=TB
340 FOR Q = 1 TO 3
345 N$=STR$(N(Q,P))
347 IF LEN(N$)< 5 THEN N$=" "+N$:GOTO 347
350 PRINT @TP,N$;
355 TP=TP+64
360 NEXT Q
363 PRINT @TP,"-----";
```

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```
365 GT$=STR$(GT(P))
366 IF LEN(GT$) = > 6 THEN TP=TP-1
367 IF LEN(GT$)< 5 THEN GT$=" "+GT$:GOTO 367
370 PRINT @TP+64,GT$;
380 NEXT P
390 PRINT:PRINT
400 RETURN
500 REM -- INTRODUCTION TO LESSON 43 --
505 CLS :PRINT "ACTIVITY 3"
510 PRINT "LEARN NEW KEYS: 1,2,3":PRINT
520 PRINT "Learn to reach to 1:":PRINT "1. Locate 1(below 4) on the numeric keyp
ad"
530 PRINT "2. Watch your first finger move down to 1 and back to 4 a few      ti
mes without striking keys."
540 PRINT "3. Practice striking 14 a few times as you watch the finger":PRINT
550 PRINT "Learn to reach to 2:":PRINT "   Learn the second-finger reach to 2(be
low 5) as directed in   steps 1 - 3 above.":PRINT
560 PRINT "Learn to reach to 3:":PRINT "   Learn the third-finger reach to 3(bel
ow 6) as directed above"
570 FOR X = 1 TO 10000:NEXT X
580 RETURN
```

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```
10 REM -- LESSON44 --
11 REM
12 REM WRITTEN BY TAMMIE MORRISON FOR BUSINESS & OFFICE KEYBOARDING INSTRUCTION
13 REM
15 REM THIS IS ACTIVITY 4 FOR THE 10-KEY KEYPAD.
20 REM DRILLS 1-3 WITH TOTALS AND PERCENT ACCURACY FOR EACH
30 CLEAR 1000
40 DIM DR(3,7)
50 FOR X = 1 TO 3:FOR Y = 1 TO 7
60 READ DR(X,Y):NEXT Y:NEXT X
70 DATA 330,168,2150,30712,34050,23355,39930
71 DATA 1306,1717,3070,2544,3830,35035,38925
72 DATA 3312,3030,2148,10824,40800,30030,33240
100 CLS:PRINT TAB(25)"ACTIVITY 4"
110 PRINT:PRINT
120 INPUT "ENTER THE NUMBER OF THE DRILL THAT YOU WANT OR                    'END
 FOR ANOTHER ACTIVITY";D$
125 IF D$ = "END" THEN RUN "KEYPAD"
130 IF VAL(D$) < 1 OR VAL(D$) > 4 THEN GOTO 100
140 GOSUB 200
150 GOTO 100
200 REM  - DRILLS 1-3 --
205 D=VAL(D$):TS=0:TB=247:FOR X=1 TO 7:FOR Y=1 TO 7:N(Y,X)=0:GT(X)=0:NEXT Y:NEXT
X
210 FOR P = 1 TO 7
220 CLS:PRINT TAB(10)"ACTIVITY 4";TAB(30)"DRILL";D:PRINT:PRINT
225 TB=TB+9:TP=TB
230 IF P=1 THEN PRINT @192,"A)" ELSE IF P=2 THEN PRINT @201,"B)" ELSE IF P=3 THE
N PRINT @210,"C)" ELSE IF P=4 THEN PRINT @219,"D)" ELSE IF P=5 THEN PRINT @228,"
E)" ELSE IF P=6 THEN PRINT @237,"F)" ELSE IF P=7 THEN PRINT @246,"G)"
235 IF D=2 THEN E = 7 ELSE E = 6
240 FOR Q = 1 TO E
250 N=0:PRINT @TP,"";:INPUT N(Q,P)
260 GT(P) = GT(P) + N(Q,P):TP=TP+64
270 NEXT Q:PRINT @TP,"-----"
280 PRINT @TP+64,GT(P):IF GT(P) = DR(D,P) THEN TS=TS+1
285 GT = 0 : FOR X = 1 TO 100:NEXT X
290 NEXT P:GOSUB 300:PRINT INT(TS/7*100)"% ACCURACY ON DRILL";D:INPUT "STRIKE EN
TER";X$:RETURN
300 REM  - PRINT OUT DRILL --
305 TB=245
310 CLS :PRINT TAB(10) "ACTIVITY 4";:PRINT TAB(30) "DRILL";D
320 PRINT @192,"A)":PRINT @202,"B)":PRINT @212,"C)":PRINT @222,"D)":PRINT @232,"
E)":PRINT @242,"F)":PRINT @252,"G)"
330 FOR P = 1 TO 7
335 TB=TB+10:TP=TB
337 IF D=2 THEN E = 7 ELSE E = 6
340 FOR Q = 1 TO E
345 N$=STR$(N(Q,P))
347 IF LEN(N$)< 5 THEN N$=" "+N$:GOTO 347
350 PRINT @TP,N$;
355 TP=TP+64
360 NEXT Q
```

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```
363 PRINT @TP,"------";
365 GT$=STR$(GT(P))
366 IF LEN(GT$) = > 6 THEN TP=TP-1
367 IF LEN(GT$)< 5 THEN GT$=" "+GT$:GOTO 367
370 PRINT @TP+64,GT$;
380 NEXT P
390 PRINT
400 RETURN
```

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```
10 REM -- LESSON45 --
11 REM
12 REM WRITTEN BY TAMMIE MORRISON FOR BUSINESS & OFFICE KEYBOARDING INSTRUCTION
13 REM
15 REM THIS IS ACTIVITY 6 FOR THE 10-KEY KEYPAD.
20 REM DRILLS 1-4 WITH TOTALS AND PERCENT ACCURACY FOR EACH
30 CLEAR 1000
40 DIM DR(4,7)
50 FOR X = 1 TO 4:FOR Y = 1 TO 7
60 READ DR(X,Y):NEXT Y:NEXT X
70 DATA 118,593,3865,38198,39306,70414,35515
71 DATA 934,3292,8077,16459,20716,35964,32215
72 DATA 11490,20726,35724,50136,24510,40065,0
73 DATA 33,159,1640.55,26072.20,60319.70,31543.80,0
100 CLS:PRINT TAB(25)"ACTIVITY 6"
110 PRINT:PRINT
120 INPUT "ENTER THE NUMBER OF THE DRILL THAT YOU WANT OR                    'END
  FOR ANOTHER ACTIVITY";D$
125 IF D$ = "END" THEN RUN "KEYPAD"
130 IF VAL(D$) < 1 OR VAL(D$) > 4 THEN GOTO 120
140 GOSUB 200
150 GOTO 100
200 REM -- DRILLS 1-4 --
205 D=VAL(D$):TS=0:TB=247:FOR X=1 TO 7:FOR Y=1 TO 7:N(Y,X)=0:GT(X)=0:NEXT Y:NEXT
  X
207 IF D = 1 OR D = 2 THEN EN =7 ELSE EN =6
210 FOR P = 1 TO EN
220 CLS:PRINT TAB(10)"ACTIVITY 6";TAB(30)"DRILL";D:PRINT:PRINT
225 TB=TB+9:TP=TB
230 IF P=1 THEN PRINT @192,"A)" ELSE IF P=2 THEN PRINT @201,"B)" ELSE IF P=3 THE
  PRINT @210,"C)" ELSE IF P=4 THEN PRINT @219,"D)" ELSE IF P=5 THEN PRINT @228,"
E)" ELSE IF P=6 THEN PRINT @237,"F)" ELSE IF P=7 THEN PRINT @246,"G)"
235 IF D=1 THEN E = 7 ELSE E = 6
240 FOR Q = 1 TO E
250 N=0:PRINT @TP,"";:INPUT N(Q,P)
260 GT(P) = GT(P) + N(Q,P):TP=TP+64
270 NEXT Q:PRINT @TP+1,"--------"
280 PRINT @TP+64,GT(P):IF GT(P) = DR(D,P) THEN TS=TS+1
285 GT = 0 : FOR X = 1 TO 100:NEXT X
290 NEXT P:GOSUB 300:PRINT INT(TS/EN*100)"% ACCURACY ON DRILL";D:INPUT "STRIKE E
TER";X$:RETURN
300 REM -- PRINT OUT DRILL --
301 IF D = 4 THEN GOTO 400
305 TB=247
310 CLS :PRINT TAB(10) "ACTIVITY 6";:PRINT TAB(30) "DRILL";D
320 PRINT @194,"A)":PRINT @203,"B)":PRINT @211,"C)":PRINT @220,"D)":PRINT @229,"
)":PRINT @238,"F)";
323 IF D=1 OR D=2 THEN PRINT @247,"G)"
325 IF D=1 OR D=2 THEN EN=7 ELSE EN=6
330 FOR P = 1 TO EN
335 TB=TB+9:TP=TB
337 IF D=1 THEN E = 7 ELSE E = 6
340 FOR Q = 1 TO E
345 N$=STR$(N(Q,P))
347 IF LEN(N$)< 7 THEN N$=" "+N$:GOTO 347
350 PRINT @TP,N$;
355 TP=TP+64
360 NEXT Q
```

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```
365 PRINT @TP+1,"------";
365 GT$=STR$(GT(P))
3[illegible] IF LEN(GT$) = > 8 THEN TP=TP-1
3[illegible] IF LEN(GT$)< 7 THEN GT$=" "+GT$:GOTO 367
370 PRINT @TP+64,GT$;
3[illegible] NEXT P
3[illegible] PRINT:PRINT:RETURN
400 REM -- PRINT OUT DRILL 4 --
405 TB=246:EN=6
4[illegible] CLS:PRINT TAB(10)"ACTIVITY 6";TAB(30) "DRILL 4"
420 PRINT @195,"A)":PRINT @205,"B)":PRINT @214,"C)":PRINT @224,"D)":PRINT @234,"
E)":PRINT @244,"F)"
4[illegible] FOR P = 1 TO 6
4[illegible] TB=TB+10:TP=TB
440 FOR Q = 1 TO 6
4[illegible] PRINT @TP,USING "#######.##";N(Q,P);
4[illegible] TP=TP +64
460 NEXT Q
470 PRINT @TP+1,"--------";
4[illegible] PRINT @TP+64,USING "#######.##";GT(P);
4[illegible] NEXT P
490 PRINT:PRINT:RETURN
```

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